

Amendments to the Specification

Please replace the third paragraph on page 1 (the paragraph immediately under the heading "DESCRIPTION OF RELATED ART") with the following replacement paragraph:

Microcapsules for biological substances are composed of thin, semi-permeable membranes of cellular dimensions. Microcapsules can be prepared of various polymers and their contents can consist of enzymes, cells and other biological materials. Microcapsules are prepared in such a way as to prevent their contents from leaking out and causing an immunological reaction, but the microcapsules still allow the nutrients and metabolites to exchange freely. This method has found applications primarily in transplantation of foreign materials *in vivo* without immunosuppression. One example is microencapsulation of hepatocytes for use in bio-assisted liver devices (BLAD). The ~~high~~ surface-to-volume ratio of a spherical microcapsule facilitates maximal transport of nutrients, gases, or metabolites exchange across the membrane. In addition, encapsulation of living cells allows better control of the microenvironment for optimal cellular functions via selection of suitable substrate and incorporation of controlled-release features into the local microenvironment. Other physical characteristics such as mass transport, mechanical and chemical stability can also be configured as desired without drastically affecting the functions of the living cells inside the microcapsules.